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WHAT IS CLAIMED IS:

- 1 1. A method comprising the steps of:
2 receiving video data, the video data including a plurality of frames having a first
3 presentation sequence;
4 generating a frame index, wherein the frame index includes a plurality of frame index entries
5 corresponding to the plurality of frames;
6 determining using the frame index a subset of frames of the plurality of frames based on a
7 second presentation sequence; and
8 providing the each frame of the subset of frames to a display client based on the second
9 presentation sequence.
- 10 2. The method of Claim 1, further including the step of receiving a presentation request, wherein the
11 second presentation sequence is based on the received presentation request.
- 12 3. The method of Claim 2, wherein the presentation request is received from the display client.
- 13 4. The method of Claim 2, wherein the presentation request is received from a remote control device
14 based on an input from a user of the display client.
- 15 5. The method of Claim 2, wherein the presentation request is received from a display client over a
16 network.
- 17 6. The method of Claim 1, wherein the video data includes encoded video data.
- 18 7. The method of Claim 6, wherein the video data includes MPEG video data.

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- 1 8. The method of Claim 1, further including the step of storing a representation of the video in a
2 database, wherein the frame index is generated based on the storage of the representation of the
3 video data in the database.
- 1 9. The method of Claim 1, wherein the frame index is generated based on the storage of the video
2 data at a video source.
- 1 10. The method of Claim 1, wherein each frame index entry of the plurality of frame index entries
2 includes a frame order value based on a location of the associated frame within a received
3 sequence of the plurality of frames.
- 1 11. The method of Claim 1, wherein each frame index entry of the plurality of frame index entries
2 includes a frame type value based on a frame type selected from a group consisting of: an
3 intracoded frame, a forward predicted frame, and a bi-directional predicted frame.
- 1 12. The method of Claim 1, wherein each frame index entry of the plurality of frame index entries
2 includes a frame offset value based on a offset from a first storage location of a start of a stored
3 data representing a corresponding frame of the plurality of frames.
- 1 13. The method of Claim 1, wherein each frame index entry of the plurality of frame index entries
2 includes a frame size value based on a size of a stored data representing a corresponding frame
3 of the plurality of frames.
- 1 14. The method of Claim 1, wherein the first presentation sequence includes a normal forward
2 presentation and the second presentation sequence includes a fast forward presentation.

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- 1 15. The method of Claim 14, wherein determining the subset of frames includes identifying at least
2 one intracoded frame of the plurality of frames using the frame index.
- 1 16. The method of Claim 15, wherein a presentation of the at least one intracoded frame included in
2 the subset of frames is based on a desired fast forward presentation rate.
- 1 17. The method of Claim 14, wherein determining the subset of frames includes identifying at least
2 one intracoded frame and at least one forward predicted frame of the plurality of frames using
3 the frame index.
- 1 18. The method of Claim 17, wherein a presentation of the at least one intracoded frame and at least
2 one forward predicted frames included in the subset of frames is based on a desired fast forward
3 presentation rate.
- 1 19. The method of Claim 1, wherein the first presentation sequence includes a normal forward
2 presentation and the second presentation sequence includes a fast reverse presentation.
- 1 20. The method of Claim 19, wherein determining the subset of frames includes identifying at least
2 one intracoded frame of the plurality of frames using the frame index.
- 1 21. The method of Claim 20, wherein the step of providing includes providing the subset of frames
2 in a reverse order compared to a forward order of the first presentation sequence.
- 1 22. The method of Claim 20, wherein a number of intracoded frames included in the subset of
2 frames is based on a desired fast reverse presentation rate.

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- 1 23. The method of Claim 19, wherein the step of determining the subset of frames includes the steps
2 of:
3 identifying a first group-of-pictures of the plurality of frames, the first group of pictures
4 including at least one intracoded frame and at least one forward predicted frame;
5 identifying a second group-of-pictures of the plurality of frames, the second group of
6 pictures including at least one intracoded frame and at least one forward predicted
7 frame;
8 and wherein the second group-of-pictures occurs subsequent to the first group-of-pictures in
9 the first presentation sequence.
- 10 24. The method of Claim 23, wherein the step of providing includes the steps of:
11 providing the second group-of-pictures to the display client; and
12 providing the first group-of-pictures to the display client subsequent to the second group-of-
13 pictures.
- 14 25. The method of Claim 23, wherein a number of intracoded frames and a number of forward
15 predicted frames included in the subset of frames is based on a desired fast reverse presentation
16 rate.
- 17 26. The method of Claim 23, wherein each frame index entry of the plurality of frame index entries
18 includes at least one group-of-pictures order value, wherein the group-of-pictures order value is
19 based on a location of a corresponding frame within the first presentation sequence of the group-
20 of-pictures associated with the corresponding frame.
- 21 27. The method of Claim 1, wherein the first presentation sequence includes a normal forward
22 presentation rate and the second presentation sequence includes a reverse presentation rate.

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- 1 28. The method of Claim 27, wherein the step of determining the subset of frames includes the steps
2 of:
3 identifying a first group-of-pictures of the plurality of frames;
4 identifying a second group-of-pictures of the plurality of frames; and
5 wherein the second group-of-pictures occurs subsequent to the first group-of-pictures in the
6 first presentation sequence.
- 1 29. The method of Claim 28, wherein the step of providing includes the steps of:
2 providing the second group-of-pictures to the display client; and
3 providing the first group-of-pictures to the display client subsequent to the second group-of-
4 pictures.
- 5 30. The method of Claim 28, wherein each frame index entry of the plurality of frame index entries
6 includes at least one group-of-pictures order value, wherein the group-of-pictures order value is
7 based on a location of a corresponding frame within the first presentation sequence of the group-
8 of-pictures associated with the corresponding frame.

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- 1 31. A method comprising the steps of:
2 receiving a first subset of frames of a plurality of frames, the first subset of frames having a
3 first forward presentation sequence;
4 receiving a second subset of frames of the plurality of frames subsequent to the first subset
5 of frames, the second subset of frames having a second forward presentation
6 sequence;
7 providing for display the first subset of frames in a first reverse presentation sequence,
8 wherein the first reverse presentation sequence is an opposite order of the first
9 forward presentation sequence; and
10 providing for display the second subset of frames in a second reverse presentation sequence,
11 wherein the second reverse presentation sequence is an opposite order of the second
12 forward presentation sequence.
- 13 32. The method of Claim 31, further including the step of requesting a presentation mode, wherein
14 the first subset and second subset are generated based on the requested presentation mode.
- 15 33. The method of Claim 32, wherein the presentation mode is selected from a group consisting of:
16 a fast reverse presentation and a reverse presentation.
- 17 34. The method of Claim 31, wherein the steps of providing for display the first subset and the
18 second subset includes decoding the first subset and second subset.
- 19 35. The method of Claim 31, wherein the first subset of frames includes a first group-of-pictures
20 and the second subset of frames includes a second group-of-pictures.
- 21 36. The method of Claim 35, wherein the first group-of-pictures includes at least a first intracoded
22 frame and the second group-of-pictures includes a at least a second intracoded frame.

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- 1 37. The method of Claim 35, wherein the first group-of-pictures includes at least a first intracoded
- 2 frame and at least a first forward predicted frame and the second group-of-pictures includes a at
- 3 least a second intracoded frame and at least a second forward predicted frame.

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1 38. A method comprising the steps of:
2 providing video data to a video client, the video data including a plurality of frames having a
3 first presentation sequence;
4 receiving at a first time a pause request sent from the video client at a second time, the
5 second time previous to the first time;
6 determining, based on the pause request, a last frame stored at the video client after the
7 second time and before the first time;
8 preparing to provide a next frame, the next frame including a frame subsequent in the first
9 presentation sequence to the last frame stored by the video client.

1 39. The method of Claim 38, further including the steps of:
2 receiving at a third time a resume request sent from the video client at a fourth time, the
3 fourth time previous to third time; and
4 providing the next frame to the video client.

1 40. The method of Claim 39, further including the step of providing, after the first time and before
2 the second time, at least one frame subsequent to the last frame to the video client, and wherein
3 the next frame is subsequent to a last frame of the at least one frame provided to the video client
4 after the first time and before the second time.

1 41. The method of Claim 39, wherein the next frame includes a frame immediately subsequent to
2 the last frame in the first presentation sequence.

1 42. The method of Claim 38, wherein the pause request includes a jump request, the jump request
2 indicating a shift in a presentation of the video data by a first number of frames.

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1 43. The method of Claim 42, wherein the next frame includes a frame subsequent to the last frame
2 in the first presentation sequence by the first number of frames.

1 44. The method of Claim 42, further including the step of providing the next frame to the video
2 client.

1 45. The method of Claim 38, wherein the pause request includes a last frame buffered value to
2 indicate the last frame stored at the video client.

1 46. The method of Claim 45, wherein the last frame buffered value includes a time value
2 representative of a location of the last frame in the first presentation sequence.

1 47. The method of Claim 38, wherein the step of preparing includes locating the next frame in the
2 video data.

1 48. The method of Claim 38, wherein the step of preparing includes using the frame index to locate
2 the next frame based on the pause request.

1 49. The method of Claim 48, further including the step of obtaining a frame index, wherein the
2 frame index includes a plurality of frame index entries corresponding to the plurality of frames.

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1 50. A system comprising:
2 an input interface having an input and an output, said input interface to receive digital video
3 data having a plurality of frames in a first presentation sequence;
4 a recording module having an input coupled to the input of said input interface and an
5 output, said recording module to generate a frame index based on the plurality of
6 frames, said frame index including a plurality of frame index entries corresponding
7 to the plurality of frames;
8 a presentation control having an input coupled to the output of said recording module and an
9 output, the presentation control to determine a subset of the plurality of frames
10 having a second presentation sequence using said frame index.

51. The system of Claim 50, further including an output interface having an input coupled to the
output of said presentation control, said output interface to provide the subset of frames to a
display client based on the second presentation sequence.

52. The system of Claim 50, further including a database having an input coupled to the output of
said recording module and an output coupled to the input of said presentation control, said
database to store the video data.

1 53. The system of Claim 50, wherein each frame index entry of the plurality of frame index entries
2 includes a frame order value based on a location within a received sequence of a corresponding
3 frame of the plurality of frames.

1 54. The system of Claim 50, wherein each frame index entry of the plurality of frame index entries
2 includes a frame type value based on a frame type selected from a group consisting of: an
3 intracoded frame, a forward predicted frame, and a bi-directional predicted frame.

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1 55. The system of Claim 50, wherein each frame index entry of the plurality of frame index entries
2 includes a frame offset value based on a offset from a first storage location of a start of a stored
3 data representing a corresponding frame of the plurality of frames.

1 56. The system of Claim 50, wherein each frame index entry of the plurality of frame index entries
2 includes a frame size value based on a size of a stored data representing a corresponding frame
3 of the plurality of frames.

1 57. The system of Claim 50, wherein the first presentation sequence includes a normal forward
2 presentation and the second presentation sequence includes a fast forward presentation.

3 58. The system of Claim 57, wherein said presentation control is to determine the subset of frames
4 by identifying at least one intracoded frame of the plurality of frames using the frame index.

5 59. The system of Claim 57, wherein said presentation control is to determine the subset of frames
6 by identifying at least one intracoded frame and at least one forward predicted frame of the
7 plurality of frames using the frame index.

1 60. The system of Claim 50, wherein the first presentation sequence includes a normal forward
2 presentation and the second presentation sequence includes a fast reverse presentation.

1 61. The system of Claim 60, wherein said presentation control is to determine the subset of frames
2 by identifying at least one intracoded frame of the plurality of frames using the frame index.

1 62. The system of Claim 61, wherein said presentation control is to provide the subset of frames in a
2 reverse order compared to a forward order of the first presentation sequence.

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1 63. The system of Claim 61, wherein said presentation control is to determine the subset of frames
2 by identifying a first group-of-pictures and a second group of pictures of the plurality of frames,
3 wherein the second group-of-pictures occurs subsequent to the first group-of-pictures in the
4 forward presentation sequence, and then to include the first group-of-pictures and the second
5 group-of-pictures in the subset, wherein the second group-of-pictures occurs previous to the first
6 group-of-pictures in the second presentation sequence of the subset.

1 64. The system of Claim 63, wherein the first group-of-pictures and the second group-of-pictures
2 each include at least one intracoded frame.

1 65. The system of Claim 63, wherein the first group-of-pictures and the second group-of-pictures
2 each include at least one intracoded frame and at least one forward predicted frame.

1 66. The system of Claim 63, wherein each frame index entry of the plurality of frame index entries
2 includes at least one group-of-pictures order value, wherein the group-of-pictures order value is
3 based on a location of a corresponding frame within the first presentation sequence of the group-
4 of-pictures associated with the corresponding frame.

1 67. The system of Claim 50, wherein the first presentation sequence includes a normal forward
2 presentation rate and the second presentation sequence includes a reverse presentation rate.

1 68. The system of Claim 67, wherein said presentation control is to determine the subset of frames
2 by identifying a first group-of-pictures and a second group of pictures of the plurality of frames,
3 wherein the second group-of-pictures occurs subsequent to the first group-of-pictures in the
4 forward presentation sequence, and then to include the first group-of-pictures and the second
5 group-of-pictures in the subset, wherein the second group-of-pictures occurs previous to the first
6 group-of-pictures in the second presentation sequence of the subset.

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- 1 69. The method of Claim 68, wherein each frame index entry of the plurality of frame index entries
2 includes at least one group-of-pictures order value, wherein the group-of-pictures order value is
3 based on a location of a corresponding frame within the first presentation sequence of the group-
4 of-pictures associated with the corresponding frame.

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